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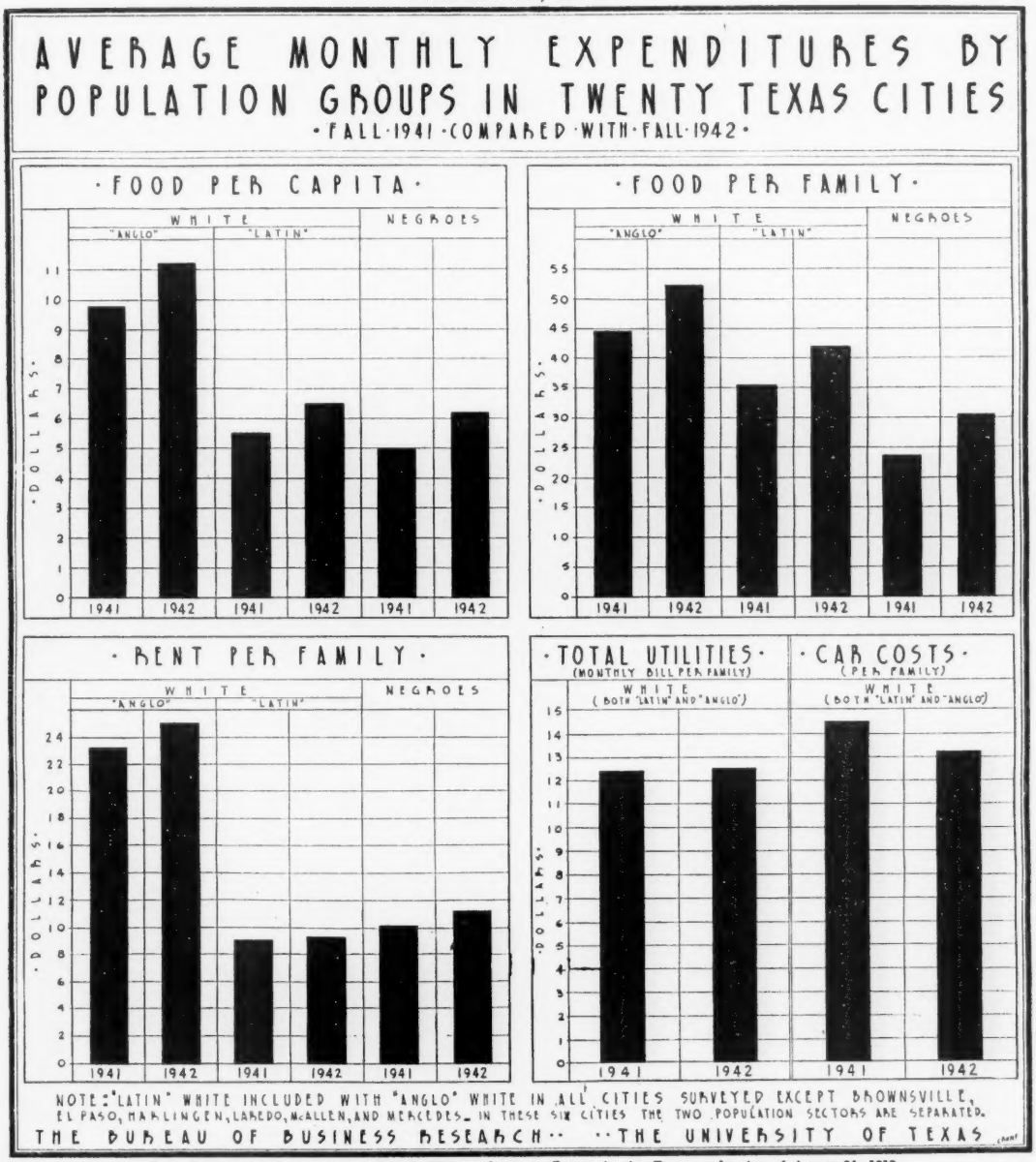
A Monthly Summary of Economic and Business Conditions in Texas
By the Staff of the Bureau of Business Research, The University of Texas
F. A. Buechel, Editor.


AVERAGE MONTHLY EXPENDITURES BY POPULATION GROUPS IN TWENTY TEXAS CITIES
· FALL 1941 · COMPARED · WITH · FALL 1942 ·
· FOOD PER CAPITA ·
· FOOD PER FAMILY ·
· RENT PER FAMILY ·
· TOTAL UTILITIES ·
(MONTHLY BILL PER FAMILY)
· CAR COSTS ·
(PER FAMILY)
WHITE
"ANGLO"
"LATIN"
NEGROES
WHITE (BOTH "LATIN" AND "ANGLO")
· DOLLARS ·
1941
1942
NOTE: "LATIN" WHITE INCLUDED WITH "ANGLO" WHITE IN ALL CITIES SURVEYED EXCEPT BROWNSVILLE, EL PASO, HARLINGEN, LAREDO, McALLEN, AND MERCEDES. IN THESE SIX CITIES THE TWO POPULATION SECTORS ARE SEPARATED.
THE BUREAU OF BUSINESS RESEARCH · · THE UNIVERSITY OF TEXAS

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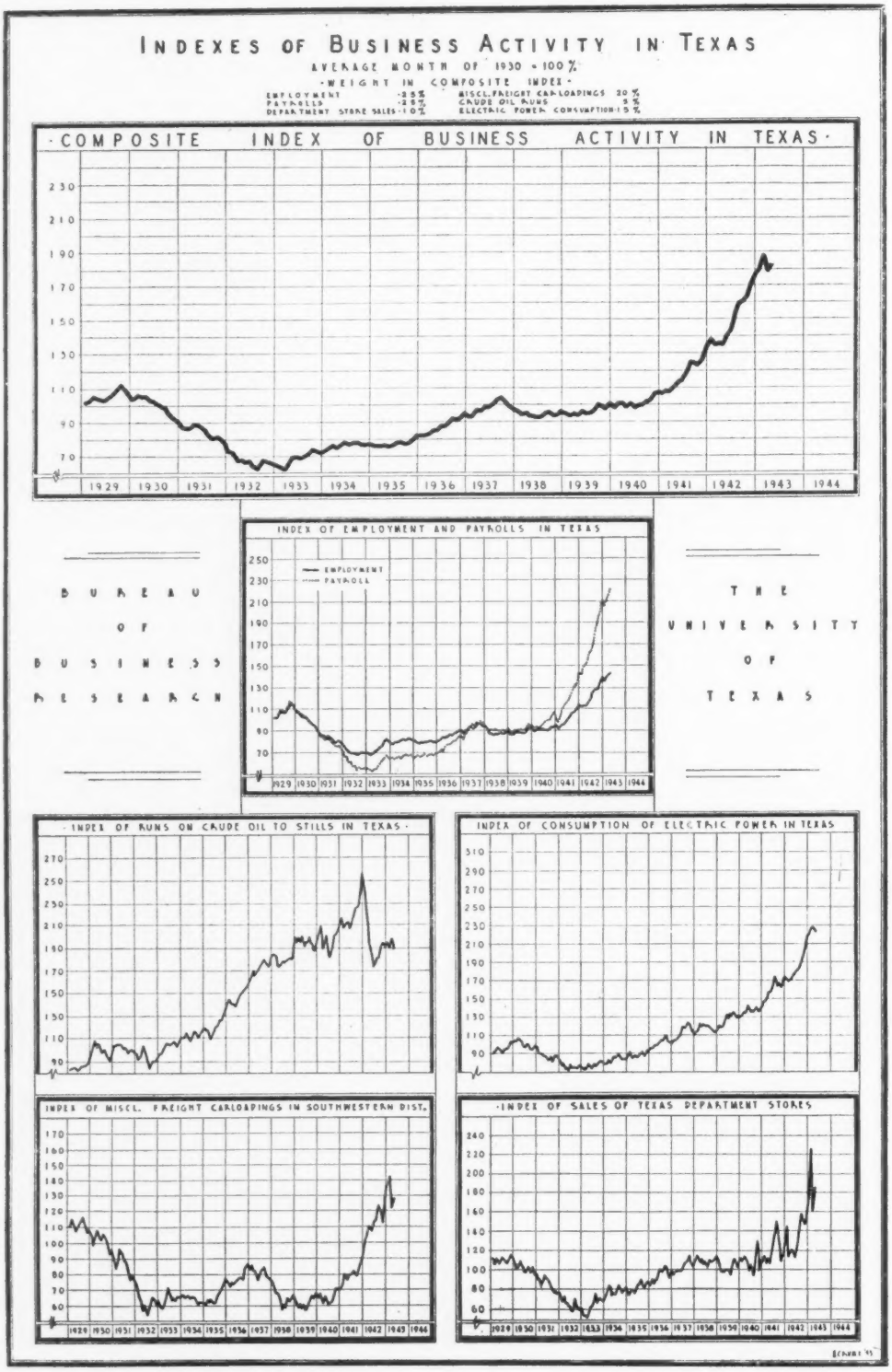
INDEXES OF BUSINESS ACTIVITY IN TEXAS
AVERAGE MONTH OF 1930 = 100%
WEIGHT IN COMPOSITE INDEX
EMPLOYMENT 25%
PAYROLLS 25%
DEPARTMENT STORE SALES 10%
MISCL. FREIGHT CAR-LOADINGS 20%
CRUDE OIL RUNS 5%
ELECTRIC POWER CONSUMPTION 15%
COMPOSITE INDEX OF BUSINESS ACTIVITY IN TEXAS
INDEX OF EMPLOYMENT AND PAYROLLS IN TEXAS
EMPLOYMENT
PAYROLL
BUREAU OF BUSINESS RESEARCH
THE UNIVERSITY OF TEXAS
INDEX OF RUNS ON CRUDE OIL TO STILLS IN TEXAS
INDEX OF CONSUMPTION OF ELECTRIC POWER IN TEXAS
INDEX OF MISCL. FREIGHT CARLOADINGS IN SOUTHWESTERN DIST.
INDEX OF SALES OF TEXAS DEPARTMENT STORES

Business Review and Prospect

During January, national production of war materials amounted to approximately six billion dollars. In April, expenditures for war production had reached nearly 7.3 billion dollars, and it is expected that war production will have reached the monthly rate of eight billion dollars before the leveling off in war expenditures begins. This latter figure represents approximately two-thirds of the total national production, indicating an annual production for war and civilian use of between 140 and 150 billion dollars for the current year. Many of the war industries will continue to expand their output after others have begun converting for civilian production, causing local problems of adjustment of men and materials. Total production for war and civilian uses promises to remain at a high level for an indefinite period.

Texas Business

All but two of the components of the Texas business index—runs of crude oil to stills and electric power consumption—were above those of the preceding month and with one exception—runs of crude oil to stills—all of the April components were sharly above those of the corresponding month in 1942.

APRIL INDEXES OF BUSINESS ACTIVITY IN TEXAS

(Average month of 1930=100%)

	April, 1943	April, 1942	March, 1943
Employment	143.9	113.3	141.1
Pay Rolls	220.9	152.7	218.3
Miscellaneous Freight Carloadings (Southwest District)	127.7	106.6	121.5
Runs of Crude Oil to Stills	189.2	188.6	198.6
Department Store Sales	183.6	120.0	160.1
Electric Power Consumption	225.4	172.1	227.6*
COMPOSITE	182.4	135.2	180.3*

*Revised.

The Texas composite index at 182.4 was approximately 35 per cent higher than in April last year; and the April index of non-agricultural pay rolls was 44 per cent greater than for the corresponding month a year ago. Total non-agricultural pay rolls in Texas are now more than twice those of 1929, the banner pre-war year.

The sharp increases in pay rolls and farm cash income are reflected in sales of department and apparel stores. Dollar sales in these types of retail establishments rose nearly 14 per cent from March to April and were 53 per cent above April a year ago.

Farm Cash Income

Income from agriculture in Texas continued during April the phenomenal year-to-year increase which has characterized preceding months. The total farm cash income for the month was more than seventy-five million dollars, which compares with forty-nine million dollars during April last year, or an increase of fifty-three per cent. Aggregate farm cash income for the year to date was 247 million dollars, or fifty-five per cent more than the 160 million dollars during the corresponding period last year.

For reasons stated in the footnote under the following table these figures are an understatement of from six to ten per cent.

INDEXES OF FARM CASH INCOME IN TEXAS

(Average month of 1928–1932=100%)

District	April, 1943	March, 1943	April, 1942	Actual Cash Income January–May 1943	Actual Cash Income January–May 1942
1–N	503.3	359.7	251.9	37,504	18,154
1–S	357.6	806.4	253.5	24,984	15,455
2	226.4	311.6	187.6	21,399	14,966
3	220.6	244.2	189.6	9,547	7,258
4	268.9	235.4	252.2	26,098	26,029
5	198.0	204.5	113.6	8,896	4,788
6	435.0	497.5	217.3	18,410	10,445
7	198.4	208.7	181.2	12,751	10,157
8	209.0	284.8*	158.9	16,776	11,718
9	193.3	290.1*	157.8	20,159	15,615
10	288.3	467.3	141.7	16,284	7,741
10–A	498.5	502.7	238.8	31,839	17,560
STATE	301.2	342.3	195.3	244,611	159,886

*Revised.

Note: Farm cash income as computed by this Bureau understates actual farm cash income by from six to ten per cent. This situation results from the fact that means of securing complete local marketings, especially by truck, have not yet been fully developed. In addition, means have not yet been developed for computing cash income from all agricultural specialities of local importance in scattered areas throughout the State. This situation, however, does not impair the accuracy of the *indexes* to any appreciable extent.

The main sources of income were livestock (cattle, calves, hogs, and sheep), amounting to thirty-eight million dollars, compared with twenty-five million dollars from these sources during April last year; fruits and vegetables, twelve million, compared with four million a year ago; and dairy and poultry products, fifteen million dollars, compared with approximately twelve million dollars during April, 1942.

Much of the increase in income over a year ago was the result of the higher level of prices. Especially was this true in the case of fruits and vegetables. But the sharp increase in the volume of farm products marketed accounted for the major portion of the increase. This statement applies especially to cattle and hogs.

For Other Texas Data, See Statistical Tables at the End of this Publication

In view of the fact that the number of cattle on Texas farms and ranches on January 1, 1943 was only slightly above that of the corresponding date of the preceding year, it does not seem probable that this sharp year-to-year increase in shipments will continue throughout the year. Moreover, a large percentage of Texas cattle shipments during April are normally made to the grazing areas of northern Oklahoma and southern Kansas, where they are pastured for several months and then forwarded to markets or to the feeding areas of the middle west.

Feeder cattle from Texas ranges are not expected to be in as great demand by next fall at middle west feed lots as has been true in recent years because of the expected shrinkage in volume of feedstuff, and the consequent higher prices of feed and the less favorable cattle-feed ratio. Texas farmers and ranchmen will, therefore, be following a wise policy if they cull their herds rigorously during the next few months while the level of range cattle prices is still high.

It is significant that in April, 1918, after this country had been in World War I just one year, the United States Bureau of Labor Statistics index of farm products stood at 145.0 (1926=100), and at its peak in January, 1920, the index reached 170. In April this year, after our country had been technically at war approximately one year and four months, the index had reached slightly under 124. Thus, the general index of farm products would have to rise approximately seventeen per cent from present levels before it will have reached the level attained after one year in World War I. To reach the peak attained after the end of the first world war, the level of farm prices for the country as a whole would have to increase thirty-seven per cent from present levels.

It is of special significance to Texas agriculture that whereas the national index of livestock prices at present is still somewhat below that of the corresponding month of 1918, the average farm price of Texas cattle in April, 1943, was approximately fifty per cent above that of April, 1918. This situation may be ascribed to the vast improvement which has taken place in the quality of Texas cattle during the past twenty-five years and the strong demand for Texas cattle by feeders in the Mid-West, where the comparative abundance and low cost of feed has made the feeding of cattle highly profitable. As previously pointed out, the favorable relationship between feed costs and cattle prices which the mid-western farmer has enjoyed for some time promises to be modified considerably in the months immediately ahead. The demand for Texas feeder cattle will no doubt be affected correspondingly.

F. A. Buechel

Major Shifts In Oil Production In the United States

ADJUSTMENTS OF A GREAT INDUSTRY TO THE CHARACTER AND OCCURRENCE OF A VITAL NATURAL RESOURCE

The sequence of the westward migration of the oil industry across the United States follows a simple pattern. Beginning in a localized area in western Pennsylvania and New York, the industry spread rapidly in these states, although it spread slowly westward into Ohio, West Virginia, and Kentucky, and later still into Indiana (1889) and Illinois. Oil was not produced commercially in Ohio and West Virginia until 1876. This also was the year in which commercial oil production began in California. Large production however, did not develop in Ohio until 1886 and in California not until 1891. Prior to 1890 Pennsylvania and New York accounted for most of the production in the United States. These two states down to 1890 contributed about 90 per cent of the national output; 75 per cent of the national output during this period was contributed by Pennsylvania alone. Expansion into Ohio and Indiana began in the 1890's. The peak production of some of these states east of the Mississippi River came in the early years of the 20th century, prior to 1905. After 1905 production west of the Mississippi became the dominant factor in the United States oil industry.

It is important to emphasize at the outset that the striking shifts in production in the United States oil industry, together with the size and characteristics of the fields, the quality of the oil from the various districts, and the facts as to reserves both of oil and gas are closely related to and dependent upon the geologic features of the United States. It follows that an understanding of our oil industry, together with its comparative relations to that of other countries has necessarily to be based upon the geologic features involved in the evolution of the continents. To attempt any sort of a worthwhile appraisal of the world's oil industry without a sure knowledge of the geologic features involved is to attempt the impossible. Similar patterns of the fundamental background apply of course to all forms of production. It is utterly impossible, for instance, to appraise the modern shifts in production in wheat or cotton or of the various kinds of livestock, and therefore to interpret the fundamental economics involved in such production without a clear knowledge of the environmental and natural resource features concerned in each case. Furthermore this knowledge of the physical background must be more than merely substantial: it must be precise. This means necessarily that this knowledge is based on the natural sciences.

As regards the significance of geologic conditions as basic to an understanding of oil production, a brief comparison of Canada and the United States will serve to illustrate some of the features manifested in the great contrasts of these two countries in oil production.

Canada's oil production began in Ontario in 1862, with a record output for that year of 12,000 barrels—only three years after the famous Drake well had started commercial oil production in the United States.

But it took Canada until 1929 to reach the million barrel mark in its annual production—and in that year the United States for the first time attained the billion barrel mark in its annual output.

It took Canada 67 years to reach the million barrel mark—but Pennsylvania in 1861 produced more than two million barrels. Only 21 years after the Drake discovery, in 1880, the year in which New York—a very minor producer in the United States—produced a million barrels for the first time, Pennsylvania had reached the 25 million barrel mark in its annual production.

As to current production, Canada in 1942 was producing less than 10 million barrels; the United States, a little less than 1 billion 400 million barrels.

As to totals, Canada at the end of 1942 had produced 84 million barrels; the United States, 26 billion 600 million barrels.

These differences in production between Canada and the United States are matters of geology—of the character of the rocks and the types of geologic structures—of the two countries.

The Canadian market for oil products is, of course, very much less than that of the United States. But Canada normally consumes 50 million barrels of oil; it produces only 10 million. The discrepancy is made up largely by imports from the Untied States.

The Appalachian district, the oldest producing region of the United States, has been a producer for more than 80 years; and for about half of this period it supplied practically half of United States production. Total production to date in this district has been 2 billion 174 million barrels—or about 8 per cent of United States output. Pennsylvania is the only state in the district whose production has been in excess of 1 billion barrels. For years production in the Appalachian district had been stationary, although more recently there have been increases due to the extension of secondary recovery operations.

West of the Mississippi, oil production began slowly, in Kansas, from which operations extended into eastern Oklahoma and north Texas, where this stream of development met another that stemmed from the Gulf Coast, having received its great impetus from Spindletop (1901). The first commercial production of oil in Kansas was in 1889, from shallow wells in the southeastern part of the State. The Corsicana field was opened in 1894. Spindletop started development of the industry in the Gulf Coast.

Commercial production in Oklahoma began in 1902. With the development of the Bartlesville area in 1904 and of Glenn Pool in 1906, Oklahoma production began its rise into prominence. Arkansas' production, however, did not become important until 1921 with the development of the El Dorado field. Smackover was discovered in 1922.

The rise of California production is sufficiently individualistic to require separate consideration. Oil production in California dates from 1885 and the State's annual output has been subject to wide variations. Large production began in 1895 when the annual output reached a million barrels.

Rise of Oil Production West of the Mississippi River

Since the turn of the century the American oil industry has been accelerating its production at a rapid pace and this accelerated production has been almost entirely west of the Mississippi. Some comparative figures may put this great shift in clearer perspective. It took until 1900 for the United States oil industry to produce a cumulative of one billion barrels of crude oil; currently the United States is producing in excess of one and a third billion barrels of oil annually. Prior to 1900 the oil production of the United States came largely from east of the Mississippi River, principally from the Appalachian district. Peak production of the Appalachian district came in 1900 with an output of 53 million barrels.

As late as 1903 nearly 50 per cent of United States oil production came from east of the Mississippi. In 1903 the entire production of oil was from depths less than 2,000 feet. During this entire period the main product derived from oil was kerosene. And during this period from 1859 to around 1905 the expansion of the oil industry had been a gradual one, and particularly so during the first 30 years of the industry. This was a period in which the uses for oil products were limited—a feature paralleled by the limited ability of producing oil as well as of refining the oil, after it was produced. But as an illuminant, kerosene was to give way to electricity around the turn of the century except in rural areas and the like. By 1906 the oil fields of the Mid-Continent, the Gulf Coast, and California had become the important sources of crude oil for the American market.

To summarize: Since around 1905 the demands for gasoline as a motor fuel have expanded in a spectacular manner and the markets for lubricating oils have grown sufficiently to make these important items of the oil industry. It was not until 1915, however, that the volume of gasoline produced in the United States for the first time exceeded that of kerosene. Moreover, it is a curious fact that United States production of kerosene has not decreased in volume, and furthermore most of this kerosene is consumed in the United States. But gasoline production since World War I has increased at a tremendous pace.

1. The Drake well, 69.5 feet deep, on Oil Creek, near Titusville, Pennsylvania, with a daily production of only 33 barrels, started a frenzied oil stampede, with all the accompaniments of boom conditions, in which speculation ran rife.

A somewhat broadened growth, in the rising demand for petroleum products came after 1870—with the quickened tempo of industrial activity in the latter quarter of the 19th century.

For 25 years after Drake's discovery, Pennsylvania maintained its leadership in petroleum production.

Pennsylvania's peak of production came in 1891—with an output of 31 million barrels. Later came a period of decline; this decline was checked through the inauguration of secondary recovery by flooding in the Bradford field, and a second peak of 19 million barrels was attained in 1937.

Years before Pennsylvania reached its peak production, prospecting for oil had moved westward and by 1890, new fields had been opened up in West Virginia and Ohio.

2. Since 1900 the oil industry has had an enormous expansion in the United States; gasoline, formerly a waste product, became the main product. However, the peaks of production in the various states of the Appalachian district had been reached by 1900. The total production of oil during the first 40 years of the industry in the United States amounted to less than that of a single year's output at the present time. In 1903 national output first passed the 100 million barrel mark; in 1904 more oil was produced west of the Mississippi than east of it—for the first time.

3. From 1905 until 1929 oil production in the Appalachian district was characterized by a rather uniform rate of decrease. With the application of water flooding in the Bradford field, production rose again, and Pennsylvania reached its second peak of 19 million barrels in 1937.

Several factors are to be considered in explaining how the decline in oil production in the Appalachian district has been checked: these include the long-lived sands, the shallowness of production, the quality of the oil and the premium price it commands, the proximity of the production to the vast eastern market, and the adaptability of engineering technique to field conditions.

Although the spectacular coming in of Spindletop in 1901 ushered into the oil industry a new psychology, it was Oklahoma and California production that was responsible for the great increases in oil production west of the Mississippi River from 1905 until about 1920 when Texas' production began in a substantial manner its rapid climb upward; it was not until 1928, however, that Texas production attained first place among the states. In 1933 Texas production for the first time exceeded the combined annual production of California and Oklahoma.

Still another fact stands out in exemplification of the accelerated growth in oil production. The United States reached the billion barrel mark in its annual output first in 1929. To the end of 1930 the total oil production of

the United States amounted to a little more than 13 billion barrels; at the end of 1942 it stood at 26 billion 596 million barrels. That is, during the past 12 years the United States has produced more oil than it had in its entire history prior to the end of 1930.

Major Oil Producing Regions

There are three bigger divisions of oil production in the United States useful in outlining a larger perspective of production by the industry. Each of these divisions is characterized by its own types of geologic conditions and structural features.

A. The Appalachian and other districts east of the Mississippi River.

B. West of the Mississippi River, excluding California:

(1) The Mid-Continent, of which the Permian Basin of West Texas and southeast New Mexico is a southwestern extension. This is an important oil producing region. To the end of 1942 Oklahoma and Kansas together had accounted for 6 billion 400 million barrels of oil—or 24 per cent of the total national output. In 1942 these two states produced more than a sixth (17 per cent) of the United States total for that year. The total production of North Central and West Central Texas amounts to another billion barrels. There is, in addition, the large production of the Permian Basin and Panhandle fields.

(2) The Cretaceous and Tertiary production of the Coastal Plain, including the coastal and interior portions of the Gulf Coastal Plain of Texas and Louisiana.

(3) The rather scattered production of the Rocky Mountain district, which has only a few good oil fields.

C. California, the entire production of which is from the Tertiary, with one very minor exception.

Geologically, another base for subdivision is useful: the Appalachian geosyncline district; the Continental Interior Platform lying between the Appalachian geosyncline and the Rocky Mountains, which, of course, includes the Mid-Continent; the Gulf Coastal Plain, and the Tertiary embayment and basin areas of California.

Still another grouping is useful, especially in furnishing a perspective of the future of the industry as based upon the quantity of oil reserves: the Eastern districts, the Southwest, and California.

State totals of oil production show not only the major shifts of the oil industry across the nation, but also the spread of production across the major subdivisions or regional sectors in oil production.

With the general perspectives in the background, two or three items can be given emphasis: One of these items is that a few important fields, some 45 or 50 have contributed the bulk of United States' oil production. To the end of 1942, the 43 fields of the United States (lumping all of Greater Seminole into one), whose total production is in excess of 100 million barrels, had furnished practically 48 per cent of the entire production of the United States to that date. The 7 largest fields, again counting Greater Seminole as one, have accounted for nearly 23 per cent of the total production of the country.

In 1942 the 75 largest fields in the United States accounted for 54.5 per cent of the United States total for that year; and in the same year the 45 largest fields, all producing more than 5 million barrels annually, accounted for 44 per cent of the national total. It may be emphasized also that a few fields, some 3 or 4 at most, in each district have accounted for the bulk of production from that particular district.

Another important item is the tremendous growth in production of the industry. Annual output in 1941, the peak year in United States oil production, exceeded 1 billion 400 million barrels—22 times what it had been in 1900.

The basis for determining what is an important field is its importance from the standpoint of the national supply at a particular time. The 100 million barrel group of oil fields or pools is a very select one among American oil fields. A 4 million barrel field is a sizeable field but our demand in the United States consumes an amount of oil equivalent to a field of this size daily. In 1900 a 4 million barrel field would have been of outstanding importance; in 1942 such a field is almost lost in the shuffle.

Still another comparative feature is exemplified in the Bradford field. At the time of its discovery this field alone could have supplied the bulk of the American market of the time for several years.

Bradford's total production to the end of 1942 was 443 million barrels; its remaining reserves at that time were estimated at 222 million—giving an estimated ultimate of 665 million barrels. But the total production of Bradford to the end of 1942 was 40 million barrels less than the output of Texas for the one year of 1942.

Still another comparison may give a different angle to this perspective: As previously noted, the United States in a single year now produces as much petroleum as it did during the entire period of the first forty years of the industry, i.e., down to 1900.

The outstanding importance of the Big Three—Texas, California, and Oklahoma—is a predominant fact in United States oil production. These three states have produced the bulk of the oil of the United States. Their combined total production is 3 billion barrels more than twice that of all the rest of the states. The position of the Big Three may be seen comparatively by contrasting it with that of the second Big Three of the producing states, each of which has produced somewhat more than a billion barrels of oil.

Oklahoma as a Whole

1. A few large pools are representative of the conditions which characterize the various districts. These large pools yield the bulk of the oil of the individual districts. (And a few leases yield the bulk of the oil in a pool; a few wells yield the bulk of the oil in a lease).

The use of averages mean little when wide variations occur between the minima and the maxima; in such cases the use of averages is a risky practice. The average in

such cases does not indicate what can be expected of the individual case.

2. Total production to the end of 1942 was 5 billion 128 million barrels—or 19.3 per cent of the United States total. In 1942 Oklahoma produced 140,386,000 barrels or 10 per cent of the United States total. This indicates that Oklahoma has left its peak production far behind.

Since 1937 Oklahoma has been making all the oil it can; from 1930 to 1937 there was really restriction.

3. Outstanding fields of Oklahoma.

Production to the end of 1942:

Oklahoma City (1928)	571.6	million	barrels
Cushing (1912)	362.4	"	"
Glenn Pool (1905)	220.0	"	"
Burbank (1920)	208.5	"	"
Healdton (1913)	193.4	"	"
Greater Seminole area	1,183.5	"	"
St. Louis (1927)	159.5	"	"
Seminole City (1926)	130.8	"	"
Earlsboro (1926)	126.6	"	"
Bowlegs (1926)	121.0	"	"
Little River (1927)	113.0	"	"
Tonkawa (1921)	122.0	"	"

Fitts and Hewett will certainly reach 100 million barrels production. Out of 500 pools in Oklahoma, two thirds of the total output of the State has been produced by 32 pools. These comparative relations are based on the fact that fields in the United States producing 100 million barrels or more form a rather select group.

The United States has only four fields that are in the 500 million barrel class if Greater Seminole is broken down into its individual fields.

These are:

East Texas (1930)	1,821.6	million	barrels
Midway-Sunset (1901)	930.9	"	"
Long Beach (1921)	680.1	"	"
Oklahoma City (1928)	571.6	"	"

4. Estimated Reserves, as of January 1, 1942.

A.P.I. Committee: 1,035 million barrels.

The Oil and Gas Journal: 1,104 million barrels.

This was 7.1 times the 1941 output—and 5.4 per cent of the United States total.

Estimated reserves, as of January 1, 1943, by *The Oil and Gas Journal:* 1 billion 121 million barrels.

5. The general situation in Oklahoma:

No really important pool, in the 25 to 50 million barrel group, has been found in several years. Fitts was the latest one of the big pools. It is reasonable to believe that the State can't come back to the 228 million barrel peak, which it made in 1937. Oklahoma has been pretty well searched for oil. Unexpected reserves in the Anadarko basin could show up.

California

Of striking significance is the small proportionate area of California that produces oil. The individualistic aspects of California's oil production history are such as to require separate treatment.

California's production had increased from the beginning, and particularly since 1900, at a rather steady rate until 1923 when the rapid development of Santa Fe Springs (1921), Long Beach (1921), and Huntington Beach (1920) fields altogether combined to almost double the output of the State.

California's total output of oil to the end of 1942 was slightly more than 6 billion barrels, 83 per cent of which was produced by 21 major fields of the State. The estimated reserves of California, as of January 1, 1943, by *The Oil and Gas Journal*, amounted to nearly 3 billion 200 million barrels—in contrast with the Texas estimated reserves of 11 billion 757 million barrels.

Texas

The position of Texas production in supplying the national market is exemplified in the growth of Texas oil production into one of the Big Three. The factors concerned are briefly as follows:

1. The opening up of flush production in one big field after another—even if there was a gap of considerable length which followed the upsurge of Spindletop which was brought in in 1901—dominated the Texas oil industry prior to the past 5 or 6 years.

Some of the basic factors concerned in the rise of this prolific production of Texas are briefly noted further on in this paper; lack of space precludes a more complete discussion, even in outline.

It should be kept in mind how the huge national production, which began in the early 1920's, and continued for nearly a decade without general restriction of output, forced the prices of crude oil downward. Sacrifice of price was a consequence of the gigantic production. Associated with the bringing in the large field of flush production during the periods when fields were allowed to run wild were appalling wastes—wastes that were indefensible from any point of view. In retrospect these wastes appear horrifying. Oil and gas are wasting assets of the nation, as well as of Texas; and they are given once for all—they are irreplaceable resources.

2. The areal extent of possible oil producing territory in Texas and the geologic conditions involved:

The wide range of oil bearing formations from the oldest sedimentaries to the youngest, geologically considered, in conjunction with the generally great thickness of the geologic section in the various oil producing sections of the State are factors of primary importance in determining the great oil and gas reserves of Texas.

Only less significant, perhaps, is the variety of structures and other conditions in Texas affecting accumulation of oil and gas.

The two major geologic divisions of Texas, as regards oil accumulation are the following sections:

(a) That portion of Texas which occurs on the Continental Interior Platform; in general this portion of the State has a generally thick Paleozoic section, in addition to which overlying Mesozoic overlaps and Tertiary continental deposits cover large areas;

(b) The Coastal Plain, with thick Cretaceous and Tertiary sections, has numerous fields and areas of prolific production. The Trans-Pecos section of Texas, by way of contrast, has neither oil production nor possibilities that any oil will be found in the future.

The Gulf Coast and West Texas are two of the big reserve areas of the United States. The limits to depth of drilling have not been reached in these regions by any means, and it is not known what deeper drilling will reveal.

Production has extended into the Wilcox in the Coastal Plain but in the Gulf Coast the Cretaceous is untested. Then in addition there is the Jurassic problem. Also, at a depth of from 10,000 to 15,000 feet in the Gulf Coast, the oil consists of a very light oil and distillate, usually with considerable gas. The gas is rich in certain hydrocarbon fractions.

Thus far there have been three periods in the development of Gulf Coast oil. These periods embrace the years

(1) From 1901 to 1923;
(2) From 1923 to 1928;
(3) From 1928 to date.

When drilling depths are practicable to 20,000 feet the Gulf Coast may witness another wave or cycle of exploration.

3. Commercial advantages obviously constitute a most important factor in the progressive rise of Texas production; of these, the important fact of deep-water transportation to the large markets on the upper Atlantic Seaboard stands out as a predominant factor.

4. Of primary significance, too, are the factors concerned in the growing market for oil in the United States and the position of Texas in being able to supply a large part of that market.

5. As to the problem of oil reserves, limitations in both vertical and horizontal extent are being reached for the nation as a whole. The position of Texas in the picture of national reserves simply re-emphasizes the overwhelming importance of Texas in oil production in the United States.

In considering the fact of limitations of reserves, the *rate of production* is the vital factor. Although the United States estimated reserves of 20 billion barrels is 16 times the amount of current production, by no manner of means is a national reserve of 20 billion barrels a 16 years' supply.

If the absolute amount of United States reserves were 20 billion barrels, the annual production after a relatively short time would begin to decline. This decline would result in two important developments:

(a) The United States in a short time would be unable to produce as much oil as the oil industry would desire; that is, the United States phase of the oil industry would find it impossible to supply the United States demand—from our domestic oil production. (What most probably would be the course of action in meeting the discrepancy between domestic oil production and the national demand is purposely omitted at this place.)

(b) The declining production of United States fields would be extended out over a long period of time.

In the United States the big problem in oil production throughout the history of the oil industry has been that of maintaining production up to the domestic demand requirements. This is so, in spite of the so-called statistical position the United States oil industry has had throughout much of its history. In order to fully understand the situation, a discriminating analysis of the sequence of development of big fields would be in order. In brief, the United States has always needed a considerable part of the production of these big fields in order to meet its domestic demand; at the same time, under the production policies in vogue at the time, a portion of the output of these big fields was available for export.

This problem of maintaining production in order to meet domestic requirements is rather rapidly becoming an increasingly important one in many sectors of the American oil industry; and it is only a matter of time until it becomes a critical problem in Texas.

It must be borne in mind that only a few states are important in oil production—and furthermore it must be borne in mind that these states are overwhelmingly important in the national picture. It is also a fact that a few large fields in these states account for the bulk or production from the respective states.

The comparative position of the second Big Three—Pennsylvania, Kansas, Louisiana—in United States oil production, serves to re-emphasize the overwhelming position of Texas, California, and Oklahoma in the national oil picture.

The Big Three had produced 70 per cent of the total output of the United States to the end of 1942; the second Big Three, each in excess of 1 billion barrels, had produced 13.5 per cent. That is, the combined production of the three leading states was 5.2 times that of the next three ranking states.

Texas and the Big Three

Texas has not always been one of the Big Three. During the 4 or 5 years preceding 1914, Texas' production, which then was settling down from the upsurge from Spindletop, was in the same rank as that of Ohio and Pennsylvania and West Virginia, which are the old producing states of the Appalachian district. In those years Illinois' production stood considerably above that of Texas, and Louisiana's output was about the same as Texas.

The two big producers of this pre-War period were Oklahoma and California.

Then came the tremendous demands of World War I and a wide scramble ensued for oil—and more oil. During the period of World War I Texas production did go up considerably.

It was during this general period that the Big Three became the Big Three, each with an annual production of more than 100 million barrels—a mark which Oklahoma reached in 1916, California in 1919, and Texas in 1921.

In 1921 the Big Three altogether accounted for 70 per cent of the total United States production for that year. The shape of things to come was appearing in outline, even if but dimly so.

Texas, however, did not achieve first place in rank among the states as regards annual production until 1928.

During the past 15 years, since Texas achieved first place among the Big Three, this State alone has produced 50 per cent as much as the total the entire United States had produced in its 69 years of oil production prior to 1928.

From 1928 to 1942 inclusive Texas has produced 6 billion 47 million barrels of oil; prior to 1928 the entire production of the United States had stood at 12 billion 302 million barrels.

From 1928 to 1942 inclusive the United States produced 14 billion 294 million barrels—and in the same period the United States, excluding Texas, produced 8 billion 247 million barrels. That is, during this 15-year period Texas produced 6 billion 47 million barrels, or approximately 75 per cent of that of all the rest of the states put together.

World War II and the Present Situation in American Oil Production

World War I crystallized the vital significance of oil to the industrial powers of the world. World production of oil in 1920 was 689 million barrels; that of the United States was 443 million barrels. World oil production in 1940 was 2 billion 142 million barrels—three times what it was in 1920; United States production in 1940 was 1 billion 353 million—also three times what it had been 20 years previously.

The gain in world production during these two decades amounted to 1 billion 453 million barrels—of which the gain in the United States accounted for 910 million barrels, or nearly 63 per cent. That is, the increase in the United States was almost two-thirds of the total increase of the world at large.

These figures reflect the tremendous growth of oil production since World War I, and particularly its expansion in the United States.

World War II, with its tremendous demands upon all raw materials, is particularly dependent upon oil. Fortunately, the United States is far in the lead in the development and application of technical knowledge as applied to oil. This feature is especially obvious in the progress achieved in chemical technology, as evidenced in the production programs of aviation gasoline, toluene for explosives, and intermediates for a huge synthetic rubber industry.

But there is also another side of the picture—the problem of how rapidly oil production can be stepped up without damage to the fields concerned. That these are problems of great concern are evident from numerous statements from those who are in a position to know.

In an article entitled "New Oil Reserves Must Be Found," published in *The Oil Weekly* of April 5, 1943, Alexander Deussen reminds us that "The adequacy of our future oil supply at the moment appears ominous. As with the other major products of our economy, we suddenly find ourselves in a situation from one of superabundance to one of critical shortage. . . .

"Ten years ago we did not know what to do with our large oil supply—today we are concerned with the question of being able to meet our war demand.

"For the immediate future we probably have enough oil in hand to meet requirements, but as the war demand continues to accelerate, we will probably face a shortage by the end of this year, and if the war continues through 1944 and 1945, as it well may, we will face an acute situation.

"The occasion for alarm," Mr. Deussen continues, "is that our discovery rate is not keeping pace with our production. As a matter of fact, instead of keeping pace with it, it is declining to an uncomfortable degree, and unless this condition is corrected the chances are that at some time in the not too distant future, we will be forced to depend on a source of energy other than our own domestic crude-oil supply."

In the same issue of *The Oil Weekly*, E. DeGolyer, then Assistant Deputy Petroleum Administrator, wrote: "It is a well-known fact that the ability of the United States to produce war materials will be one of the principal determiannts in winning the war. The ability to produce finished products for war will be greatly dependent upon the availability of raw materials. Crude petroleum ranks among the most important of those materials. Yet the nation's oil productive capacity is already being severely strained to meet the war petroleum requirements.

"Demand for crude oil produced in the United States was roughly 1 billion 400 million barrels in 1942. This was a decrease of only 1 per cent from the preceding year despite the restrictions placed on nonessential consumption. The presence of many variables precludes an accurate forecast of the over-all petroleum requirements for the duration. The more conservative estimates range from 1 billion 500 million to 1 billion 600 million barrels annually for the next 2 or 3 years. It is logical to expect that as the tempo of war increases and the theaters of war spread, the essential war requirements for petroleum will increase accordingly.

"The nation was fortunate in entering this war with a substantial backlog of reserves of some 20 billion barrels. Unfortunately, it is now facing the prospects of greater demands at a time when the rate of discovering new reserves is disturbingly low. This is a matter of deep concern, not because of the effect on our reserve

position, but because of the stern need to maintain a productive capacity adequate to supply all war and essential civilian requirements.

"The question may be raised as to why this should be a matter of concern when the nation still has a productive capacity of three to four hundred thousand barrels daily that can find no outlet. Part of the answer is that this excess capacity is largely in the Permian Basin of West Texas-New Mexico, in the Gulf Coast of Texas, and in Southwest Texas where it is not presently accessible because of limited transportation facilities or because of the fact that the oil is not of a type particularly suitable for the manufacture of war products in existing plants. Even though these transportation difficulties are solved, as they must be, the productive capacities of other areas will continue to decline unless substantial new reserves are discovered. Furthermore, we have not yet had to meet our full war demand.

"The reserves in new fields discovered annually since 1938 have been substantially less than the yearly production from the nation's oil fields. In the 4 years ending December 31, 1938, the total reserves in new fields discovered averaged 1 billion 150 million barrels annually. For the subsequent four-year period, new reserves discovered averaged 640 million barrels annually and crude-oil production was at the average annual rate of 1 billion 380 million barrels. Although the estimates of reserves discovered during recent years may be materially increased by further development, it is highly improbable that the discovery rate for the past 4 years will closely approach the production rate."

DeGolyer is quoted in *The Oil and Gas Journal*, April 15, 1943, as having stated at the A.A.P.G. meeting at Fort Worth that while the reserves of the United States might be as high as 30 billion barrels (or 50 per cent above the present estimates) this does not mean any more available oil.

In connection with these various statements, it is necessary to distinguish between shortage and exhaustion. We will have an oil shortage in the United States when we are unable to produce all the oil we need to produce in order to meet our demands. We may, and no doubt will have acute shortages long before the day of imminent exhaustion draws nigh. Furthermore, we may have sharp shortages for certain types of oil—such as the possible shortage of heavy oil in California which is in such great demand as fuel oil for the Navy, or for certain crudes especially desirable in producing blending stock for the manufacture of aviation gasoline.

Also, the rate of production has to be considered. Rates of production can be increased in numerous fields—but in many, if not in most cases, accelerated production means a lessened ultimate recovery in most fields.

Some of the newer fields in West Texas, for instance, could step up production, by perhaps as much as 10 per cent—but it is not known how long either Wasson or Slaughter, both new fields with large reserves, could economically sustain the increased rate of production. All the states east of the Mississippi River are producing all the oil they can. Kansas and Oklahoma are producing all the oil they can economically. North Louisiana and southwest Arkansas are doing about all they can. It is generally agreed by those with full knowledge of the situation that for East Texas to step up its production materially would result in such damage to the field that its ultimate recovery would be considerably reduced.

As to the over-all situation in California, there has been considerable talk of building a pipe line from West Texas to the Pacific Coast.

ELMER H. JOHNSON.

Cotton and Price Ceilings

Prices of raw cotton to date have been controlled by other than ceiling prices on the raw cotton itself. This has been possible because the production and supply of cotton available has been greater than our capacity to manufacture it in the United States and to limited foreign markets due to the war.

The bottleneck of the cotton-cotton textile industry is in insufficient manufacturing capacity. This excess of demand for finished cotton goods over the capacity to manufacture cotton led to rapid rises in cotton goods prices and larger mill profit during the latter half of 1940.

The first government interference with this situation came in April, 1941, when the Wages and Hours Administration proposed to advance the minimum wage in the textile industry from 32½ cents per hour to 37½ cents, which became effective in June, 1941. Greater mill profits and advancing wages led to greatly increased production, especially by employing from two to three eight-hour shifts per day. United States consumption of cotton rose from 7,784,000 bales in 1939–40; to 9,722,000 bales in 1940–41; to 11,172,000 bales in 1941–1942; and to a probable 11,250,000 bales in 1942–43.

According to the United States Department of Agriculture, the price of raw cotton in the ten designated spot markets declined from 10.80 cents to 9.86 cents from January to December 1940; whereas, the price of finished goods increased for 17 constructions from 24.25 cents to 24.48 cents per pound, and mill margins from 13.36 cents to 14.50 cents.

The first ceilings in the cotton-cotton textile industries were placed on combed cotton yarn in May, 1941, by the Office of Price Administration and Civilian Supply. On June 15 ceilings were extended to cover a number of constructions of gray goods. The ceiling on standard print cloth, 40-inch and narrower, was placed at 39 cents per pound and was designed to allow 21 cents for mill margins and 18 cents for cotton content. This ceiling was advanced to 43 cents for the latter part of July.

The reason given for the increase of the ceiling prices was the rise of the price of raw cotton. The average price of spot cotton in the ten markets advanced from 12.44 cents in May, 1941, to 15.58 cents in July. This is the first indication of a policy to tie price ceilings on cotton goods to prices of raw cotton.

In October, 1941, the OPA (Office of Price Administration) announced a definite policy of tieing cotton textile ceilings to raw cotton prices. The standard base adopted was 43 cents per pound for standard print cloth and 15.99 cents for cotton in the ten markets. For every change of 43 points in the price of cotton there was to be a change of one-half cent per pound in print cloth.

The Emergency Price Control Act, approved January, 1942, provided that no maximum prices shall be established or maintained for any agricultural commodity below the highest of the following prices; (1) 110 per cent of parity; (2) the market price October 1, 1941; (3) the market price December 15, 1941; or (4) the average price for the period July 1, 1919 to June 30, 1929.

October 2, 1942 the above law was amended and the President was authorized and directed to issue a general order stabilizing prices, wages, and salaries affecting the cost of living on or before November 1, 1942, on the basis of September 15, 1942, levels. Special provisions in this amendment provide that for agricultural products no maximum price below (1) the price parity of such commodity, or (2) the highest price received for such commodity between January 1, 1942, and September 15, 1942. On August 15, 1942, parity price for cotton was 18.85 cents and the maximum ten-market average price for cotton January 1, 1942, to September 15, 1942, was 20.47 cents.

On April 8, 1943, President Roosevelt issued an executive order which he designated as a "Hold-the-line" order. To many this looked like a directive to put a price ceiling on raw cotton, especially in view of the fact that fine yarn spinners in particular were protesting against filling military orders for combed yarn at the prevailing ceiling prices.

Placing of ceiling prices on raw cotton was avoided for the time being because the Commodity Credit Corporation decided to sell cotton on the basis of 21.38 cents which was the average price of M 15/16 in the ten markets on April 7, 1943. This move on the part of C. C. C. was designed to supply certain qualities of cotton which had become very scarce, as well as to avoid the necessity of putting ceiling prices on cotton in line with the President's "Hold-the-line" order. The length of time cotton prices can be held around 21.38 cents by the sale of government-controlled cotton is problematical. Regardless of that, one thing is certain, a permanent solution of the problem has not been found and the government must shortly face serious problems growing out of the conflict of higher prices to stimulate greater production and stabilized prices to prevent inflation.

The British have attempted to solve the problem by subsidies to producers rather than higher prices. A discussion of the economics of this situation as it pertains to cotton will be presented later.

A. B. Cox.

COTTON BALANCE SHEET FOR THE UNITED STATES AS OF MAY 1

(In Thousands of Running Bales Except as Noted)

Year	Carryover Aug. 1	Imports to May 1*	Final Ginnings	Total	Consumption to May 1	Exports to May 1*	Total	Balance May 1
1933–1934	8,176	112	12,664	20,952	4,458	6,485	10,943	10,009
1934–1935	7,746	83	9,472	17,301	4,116	3,986	8,102	9,199
1935–1936	7,138	102	10,417	17,657	4,658	5,167	9,825	7,832
1936–1937	5,397	167	12,130	17,694	6,017	4,762	10,779	6,915
1937–1938	4,498	99	18,242	22,839	4,430	5,034	9,464	13,375
1938–1939	11,533	108	11,621	23,262	5,153	2,964	8,117	15,145
1939–1940	13,033	123	11,477	24,633	5,955	5,695	11,650	12,983
1940–1941	10,596	119	12,287	23,002	6,993	885	7,878	15,124
1941–1942	12,367	†	10,489	22,856	8,250	†	8,250	14,606
1942–1943	10,590	†	12,437	23,027	8,440	†	8,440	14,587

The cotton year begins August 1.

*Figures are in 500-pound bales.

†Not available.

EMPLOYMENT AND PAY ROLLS IN TEXAS

April, 1943

	Estimated Number of Workers Employed*		Percentage Change from		Estimated Amount of Weekly Pay Roll		Percentage Change from	
	March 1943[1]	April 1943[2]	March 1943	April 1942	March 1943[1]	April 1943[2]	March 1943	April 1942
MANUFACTURING								
All Manufacturing Industries	163,334	164,504	+ 0.7	+ 6.9	$4,613,937	$4,840,933	+ 4.9	+32.9
Food Products								
Baking	7,721	7,839	+ 1.5	+11.6	220,963	225,134	+ 1.9	+33.7
Carbonated Beverages	3,096	3,541	+14.4	+36.2	84,794	96,922	+14.3	+39.7
Confectionery	1,193	1,190	− 0.3	+31.5	15,947	16,292	+ 2.2	+71.0
Flour Milling	2,199	2,199	± [3]	+ 4.2	56,342	61,864	+ 9.8	+53.1
Ice Cream	1,204	1,295	+ 7.5	+12.0	29,013	31,655	+ 9.1	+32.0
Meat Packing	6,045	5,525	− 8.6	+ 1.3	175,757	160,104	− 8.9	+14.7
Textiles								
Cotton Textile Mills	6,815	6,797	− 0.3	− 4.4	142,462	142,145	− 0.2	+ 6.4
Men's Work Clothing	5,041	5,241	+ 4.0	+21.2	73,470	79,925	+ 8.8	+28.9
Forest Products								
Furniture	1,790	1,743	− 2.6	−14.7	35,303	36,803	+ 4.2	− 5.6
Planing Mills	2,056	2,039	− 0.8	− 9.1	51,944	53,960	+ 3.9	− 3.5
Saw Mills	16,059	16,125	+ 0.4	− 6.9	247,529	265,726	+ 7.4	+14.1
Paper Boxes	807	867	+ 7.4	+36.4	17,565	19,127	+ 8.9	+78.8
Printing and Publishing								
Commercial Printing	2,387	2,551	+ 6.9	+ 5.0	73,117	77,120	+ 5.5	+16.2
Newspaper Publishing	4,223	4,253	+ 0.7	−10.2	112,534	118,505	+ 5.3	+ 1.2
Chemical Products								
Cotton Oil Mills	3,006	2,791	− 7.2	+ 9.7	40,964	38,358	− 6.4	+37.3
Petroleum Refining	22,135	22,135	− [4]	− 0.4	1,053,153	1,112,974	+ 5.7	+28.1
Stone and Clay Products								
Brick and Tile	1,771	1,755	− 0.9	−21.9	28,020	27,811	− 0.8	−15.8
Cement	1,165	1,168	+ 0.3	− 7.7	42,655	45,130	+ 5.8	+ 0.4
Iron and Steel Products								
Structural and Ornamental Iron	2,945	2,962	+ 0.6	+14.5	79,140	79,935	+ 1.0	+33.0
NONMANUFACTURING								
Crude Petroleum Production	25,848	25,732	− 0.5	−11.3	1,089,817	1,095,443	+ 0.5	+ 0.7
Quarrying	[5]	[5]	− 3.5	−14.9	[5]	[5]	− 3.0	− 2.2
Public Utilities	[5]	[5]	+ 0.4	+ 7.6	[5]	[5]	+ 3.0	+12.5
Retail Trade	208,297	214,831	+ 3.1	+14.2	4,242,990	4,381,985	+ 3.3	+19.6
Wholesale Trade	60,613	60,304	− 0.5	− 7.0	2,119,494	2,100,379	− 0.9	+ 4.6
Dyeing and Cleaning	2,764	3,012	+ 9.0	+17.6	53,337	60,013	+12.5	+44.9
Hotels	17,897	18,006	+ 0.6	+13.1	257,221	264,636	+ 2.9	+33.5
Power Laundries	14,606	14,912	+ 2.1	+20.0	227,205	237,630	+ 4.6	+38.5

CHANGES IN EMPLOYMENT AND PAY ROLLS IN SELECTED CITIES[6]

	Employment Percentage Change		Pay Rolls Percentage Change			Employment Percentage Change		Pay Rolls Percentage Change	
	March, 1943 to April, 1943	April, 1942 to April, 1943	March, 1943 to April, 1943	April, 1942 to April, 1943		March, 1943 to April, 1943	April, 1942 to April, 1943	March, 1943 to April, 1943	April, 1942 to April, 1943
Abilene	+ 3.3	+ 56.8	+ 2.2	+ 28.4	Galveston	− 3.0	+ 20.1	+ 8.2	+ 19.2
Amarillo	+ 1.9	+ 3.2	+ 6.5	+ 25.0	Houston	+ 0.8	+ 12.7	− 5.0	+ 11.2
Austin	− 6.5	+ 18.4	− 1.1	+ 34.7	Port Arthur	− 0.5	− 1.1	+ 13.3	+ 46.4
Beaumont	+ 0.6	+ 44.6	− 1.7	+ 94.7	San Antonio	+ 1.8	+ 5.1	+ 2.1	+ 14.0
Dallas	+ 1.3	+ 15.3	+ 2.7	+ 35.0	Sherman	+ 2.6	+ 24.6	+ 1.3	+ 43.9
El Paso	+ 2.5	+ 0.5	+ 6.5	+ 14.4	Waco	+ 1.3	+ 10.5	+ 5.5	+ 30.5
Fort Worth	+ 8.1	+ 67.7	+ 10.3	+101.5	Wichita Falls	+ 0.5	+ 36.7	+ 4.6	+ 43.5
					STATE	+ 2.0	+ 25.5	+ 1.2	+ 44.9

ESTIMATED NUMBER OF EMPLOYEES IN NONAGRICULTURAL BUSINESS AND GOVERNMENT ESTABLISHMENTS[7]

	1941	1942	1943		1941	1942[1]	1943
January	1,094,000	1,170,000	1,360,000[1]	July	1,156,000	1,317,000	
February	1,120,000	1,199,000	1,367,000[2]	August	1,176,000	1,352,000	
March	1,120,000	1,226,000		September	1,203,000	1,373,000	
April	1,114,000	1,222,000		October	1,219,000	1,384,000	
May	1,120,000	1,251,000		November	1,219,000	1,389,000	
June	1,134,000	1,291,000		December	1,222,000	1,413,700	

*Does not include proprietors, firm members, officers of corporation or other principal executives. Factory employment excludes also office, sales, technical and professional personnel.

[1] Revised.

[2] Subject to revision.

[3] No change.

[4] Less than 1/10 of one per cent.

[5] Not available.

[6] Based on unweighted figures.

[7] Not including self-employed persons, casual workers, or domestic servants, and exclusive of military and maritime personnel. These figures arer furnished by the Bureau of Labor Statistics, U. S. Department of Labor.

Prepared from repoits from representative Texas establishments to the Bureau of Business Researach co-operating with the Bureau of Labor Statistics. Due to the national emergency, publications of data for certain industries is being withheld until further notice.

APRIL RETAIL SALES OF INDEPENDENT STORES IN TEXAS

	Number of Firms Reporting	Percentage Changes in Dollar Sales: Apr., 1943 from Apr., 1942	Apr., 1943 from Mar., 1943	Year 1943 from Year 1942
TOTAL TEXAS	962	+39	+ 8	+33
STORES GROUPED BY LINE OF GOODS CARRIED:				
APPAREL	100	+71	+17	+65
Family Clothing Stores	28	+90	+18	+70
Men's and Boys' Clothing Stores	30	+75	+31	+54
Shoe Stores	12	+72	+36	+70
Women's Specialty Shops	30	+64	+ 7	+71
AUTOMOTIVE*	70	+41	− 7	+16
Motor Vehicle Dealers	67	+46	− 8	+19
COUNTRY GENERAL	97	+25	+ 3	+25
DEPARTMENT STORES	59	+48	+12	+44
DRUG STORES	123	+29	+ 4	+26
DRY GOODS AND GENERAL MERCHANDISE	22	+61	+12	+72
FILLING STATIONS	30	+47	+15	+19
FLORISTS	20	+53	+37	+43
FOOD*	148	+19	− 7	+23
Grocery Stores	46	+ 7	−12	+21
Grocery and Meat Stores	95	+24	− 4	+24
FURNITURE AND HOUSEHOLD*	69	+24	+ 2	+16
Furniture Stores	61	+23	+ 1	+18
JEWELRY	25	+63	+11	+48
LUMBER, BUILDING, AND HARDWARE*	172	− 9	+ 4	−11
Farm Implement Dealers	7	−20	+10	−19
Hardware Stores	59	− 5	+ 6	− 9
Lumber and Building Material Dealers	103	− 8	+ 4	−11
RESTAURANTS	14	+69	+ 3	+65
ALL OTHER STORES	13	+54	− 7	+37
TEXAS STORES GROUPED ACCORDING TO POPULATION OF CITY:				
All Stores in Cities of—				
Over 100,000 Population	151	+41	+ 9	+37
50,000–100,000 Population	108	+40	+ 7	+35
2,500–50,000 Population	470	+38	+ 7	+30
Less than 2,500 Population	233	+16	+ 2	+12

*Group total includes kinds of business other than the classification listed.

Prepared from reports of independent retail stores to the Bureau of Business Research, cooperating with the U.S. Bureau of the Census.

CEMENT

(In Thousands of Barrels)

	April, 1943	April, 1942	March, 1943	March, 1942	Feb., 1943
Texas Plants					
Production	862	949	996	976	687
Shipments	970	921	897	973	929
Stocks	620	839	729	811	630
United States					
Production	11,239	14,068	11,392	12,733	10,293
Shipments	12,748	14,744	10,108	12,563	8,656
Stocks	22,549	25,125	24,058	25,838	23,005
Capacity Operated	55.0%	69.0%	54.0%	60.0%	54.0%

NOTE: From U.S. Department of Interior, Bureau of Mines.

LUMBER

(In Board Feet)

	April, 1943	April, 1942	March, 1943
Southern Pine Mills:			
Average Weekly Production per unit	258,674	305,962	245,985
Average Weekly Shipments per unit	286,438	390,990	270,591
Average Unfilled Orders per unit, end of month	1,392,710	2,082,656	1,461,361

NOTE: From Southern Pine Association.

APRIL CREDIT RATIOS IN TEXAS DEPARTMENT AND APPAREL STORES

(Expressed in Per Cent)

	Number of Stores Reporting	Ratio of Credit Sales to Net Sales 1943	Ratio of Credit Sales to Net Sales 1942	Ratio of Collections to Outstandings 1943	Ratio of Collections to Outstandings 1942	Ratio of Credit Salaries to Credit Sales 1943	Ratio of Credit Salaries to Credit Sales 1942
All Stores	56	47.8	61.4	62.1	42.0	1.1	1.1
Stores Grouped by Cities:							
Austin	6	41.1	55.3	71.5	49.4	1.2	1.2
Bryan	3	35.7	52.7	52.9	39.6	1.1	2.9
Dallas	7	58.7	71.0	61.0	44.9	0.7	0.7
El Paso	3	43.0	54.2	65.8	41.0	1.3	1.2
Fort Worth	5	44.8	62.8	61.3	39.9	1.2	1.1
Houston	8	45.0	61.6	58.5	39.7	1.6	1.5
San Antonio	4	38.3	50.2	66.3	43.1	1.5	1.6
Waco	5	44.5	58.2	57.4	32.3	1.2	1.4
All Others	15	42.8	53.7	71.3	40.1	1.3	1.3
Stores Grouped According to Type of Store:							
Department Stores (Annual Volume Over $500,000)	18	47.6	61.4	62.8	43.4	1.2	1.1
Department Stores (Annual Volume under $500,000)	10	41.2	52.6	65.0	37.6	1.4	1.4
Dry-Goods-Apparel Stores	3	43.8	54.9	69.1	42.1	1.8	1.7
Women's Specialty Shops	12	52.3	62.7	58.8	38.5	0.7	0.6
Men's Clothing Stores	13	45.2	63.6	63.9	41.4	1.2	1.5
Stores Grouped According to Volume of Net Sales During 1942:							
Over $2,500,000	14	47.4	65.4	65.4	48.2	1.2	1.2
$2,500,000 down to $1,000,000	8	40.6	57.5	62.4	39.6	1.0	1.2
$1,000,000 down to $500,000	6	38.1	57.1	65.3	43.6	1.5	1.4
Less than $500,000	28	41.0	49.1	66.2	40.1	1.9	2.6

NOTE: The ratios shown for each year, in the order in which they appear from left to right are obtained by the following computations: (1) Credit Sales divided by Net Sales. (2) Collections during the month divided by the total accounts unpaid on the first of the month. (3) Salaries of the credit department divided by credit sales. The data are reported to the Bureau of Business Research by Texas retail stores.

TEXAS CHARTERS

	April, 1943	April, 1942	March, 1943
Domestic Corporations:			
Capitalization*	$1,045	$508	$1,576†
Number	33	56	39
Classification of new corporations:			
Banking-Finance	1	1	1
Manufacturing	9	7	5
Merchandising	8	13	7
Oil	3	2	5
Public Service	1	0	0
Real Estate Building	4	15	14
Transportation	0	1	1
All Others	7	17	6
Number capitalized at less than $5,000	17	29	12
Number capitalized at $100,000 or more	2	1	2
Foreign Corporations (Number)	14	9	13

*In thousands.

†Capital stock subscribed of one corporation was $1,000,000.

NOTE: Compiled from records of the Secretary of State.

COMMODITY PRICES

	April, 1943	April, 1942	March, 1943
Wholesale Prices:			
U.S. Bureau of Labor Statistics (1926=100%)	103.7	98.7	103.5
Farm Prices:			
U.S. Department of Agriculture (1910–1914=100%)	*	150.0	182.0
U.S. Bureau of Labor Statistics (1926=100%)	123.9	104.5	122.8
Retail Prices:			
Food (U.S. Bureau of Labor Statistics 1935–1939=100%)	*	119.6	*
Department Stores (Fairchilds Publications Jan. 1931=100%)	113.2	113.4	113.1

*Not available.

POSTAL RECEIPTS

	April, 1943	April, 1942	March, 1943
Abilene	$ 41,498	$ 27,451	$ 41,638
Amarillo	51,920	36,392	49,911
Austin	91,911	77,788	88,872
Beaumont	40,749	32,535	41,127
Big Spring	9,150	7,610	10,516
Brownwood	24,148	13,346	31,171
Childress	4,049	2,944	4,461
Coleman	3,807	3,502	3,529
Corpus Christi	55,562	40,994	54,414
Corsicana	7,943	7,001	8,235
Dallas	459,682	415,058	485,740
Del Rio	6,565	3,806	5,252
Denison	9,219	7,590	9,469
Denton	12,349	10,285	11,552
Edinburg	3,606	2,939	3,676
El Paso	95,020	56,188	88,690
Fort Worth	186,514	157,081	222,502
Galveston	46,526	36,939	43,416
Gladewater	4,130	3,145	3,321
Graham	2,779	2,482	2,951
Harlingen	10,863	7,729	10,540
Houston	323,887	286,536	334,633
Jacksonville	5,902	4,228	4,117
Kenedy	2,368	1,755	1,966
Kerrville	3,471	2,981	3,322
Longview	12,121	11,100	11,483
Lubbock	27,552	22,459	31,197
Lufkin	6,861	5,648	5,604
McAllen	6,654	5,762	5,620
Marshall	9,168	8,938	9,261
Paris	19,167	8,275	18,885
Plainview	5,601	4,704	5,204
Port Arthur	22,876	18,282	24,499
San Angelo	18,377	15,315	17,781
San Antonio	240,930	161,013	253,305
Sherman	11,034	9,053	11,057
Snyder	1,916	1,837	1,819
Sweetwater	7,851	5,140	7,459
Tyler	34,731	16,707	75,013
Waco	47,148	37,546	42,078
Wichita Falls	45,280	35,474	41,167
TOTAL	$2,020,885	$1,615,558	$2,126,453

Note: Compiled from reports from Texas chambers of commerce to the Bureau of Business Research.

BUILDING PERMITS

	April, 1943	April, 1942	March, 1943
Abilene	$ 6,060	$ 445,811	$ 9,940
Austin	36,767	153,541	47,228
Amarillo	49,374	117,600	38,824
Beaumont	54,590	196,423	44,376
Coleman	0	20,600	0
Corpus Christi	388,406	1,003,061	352,963
Corsicana	1,555	12,350	2,385
Dallas	140,637	432,088	135,896
Del Rio	1,850	3,505	1,452
Denton	2,800	12,500	2,675
Edinburg	605*	†	685*
El Paso	46,745	117,739	61,352
Fort Worth	593,344	3,299,198	89,461
Galveston	14,560	53,221	224,192
Gladewater	1,500	0	0
Graham	0	12,578	0
Harlingen	0	14,715	2,265
Houston	173,765	547,050	3,429,310
Jacksonville	3,000*	†	700*
Kenedy	750	1,000	0
Kerrville	950	1,300	673
Laredo	5,972	8,485	5,329
Longview	695	2,705	1,105
Lubbock	11,114	45,858	15,647
McAllen	4,135	31,580	11,635
Marshall	7,790	7,974	275,056
Midland	15,215	7,035	1,325
New Braunfels	410	5,890	525
Paris	26,390	28,045	12,530
Plainview	825	0	800
Port Arthur	13,132	37,104	12,919
San Antonio	173,499	386,987	224,872
Sherman	23,632	19,457	17,971
Snyder	0	3,250	0
Sweetwater	2,135	4,360	2,205
Tyler	6,909	15,788	3,129
Waco	175,708	179,887	62,298
Wichita Falls	45,298	93,047	6,082
TOTAL	$2,020,512	$7,251,732	$5,096,420

*Not included in total.

†Not available.

Note: Compiled from reports from Texas chambers of commerce to the Bureau of Business Research.

APRIL, 1943, CARLOAD MOVEMENTS OF POULTRY AND EGGS

Shipments from Texas Stations

	Cars of Poultry						Cars of Eggs					
	Chickens		Turkeys		Shell		Frozen		Dried		Shell Equivalent*	
	April						April					
	1943	1942	1943	1942	1943	1942	1943	1942	1943	1942	1943	1942
TOTAL	1	11½	2	3½	32	53	92	148	104	119	1,048	1,301
Intrastate	0	0	0	0	31	23	70	76	18	34	315	447
Interstate	1	11½	2	3½	1	30	22	72	86	85	733	854

Receipts at Texas Stations

TOTAL	0	1	1	0	36	36	71	38	13	30	282	352
Intrastate	0	1	1	0	35	21	66	37	13	30	271	335
Interstate	0	0	0	0	1	15	5	1	0	0	11	17

*Dried eggs and frozen eggs are converted to a shell-egg equivalent on the following basis: 1 rail carload of dried eggs=8 carloads of shell eggs, and 1 carload of frozen eggs=2 carloads of shell eggs.

Note: These data furnished to the Division of Agricultural Statistics, B.A.E., by railroad officials through agents at all stations which originate and receive carload shipments of poultry and eggs. The data are compiled by the Bureau of Business Research.

DAIRY PRODUCTS MANUFACTURED IN PLANTS IN TEXAS

Products and Year	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	TOTAL
CREAMERY BUTTER (1000 lb.)													
1943*	3,012	3,001	2,724	3,446									
1942*	2,341	2,076	2,131	3,311	4,396	4,353	3,740	3,735	3,640	3,343	2,659	2,341	38,066
1930–39 average	2,074	2,109	2,392	3,138	3,556	3,166	4,113	2,867	2,513	2,608	2,301	2,211	32,048
ICE CREAM (1000 gal.)													
1943*	1,554	1,218	1,408	1,823‡									
1942*	745	700	1,014	1,312	1,812	2,305	2,294	2,190	1,838	1,585	1,323	1,046	16,089
1930–39 average	1,215	1,262	434	570	752	893	904	846	686	460	259	205	6,486
AMERICAN CHEESE (1000 lb.)													
1943*	874	1,025	1,108	1,633									
1942*	1,308	1,302	1,644	2,204	2,756	2,674	2,559	1,989	1,649	1,184	713	735	20,717
1930–39 average	554	590	737	1,050	1,215	1,129	1,119	1,025	866	852	718	641	10,496
MILK EQUIVALENT OF DAIRY PRODUCTS† (1000 lb.)													
1943*	98,377	90,422	88,540	115,788									
1942*	75,435	77,913	83,621	105,047	148,707	145,064	145,868	131,841	119,279	104,273	83,502	72,806	1,237,136
1930–39 average	54,675	57,139	67,456	89,641	104,323	97,562	97,075	89,185	76,165	73,444	60,119	55,872	922,656

*Estimates of production made by the Bureau of Business Research.

†Milk equivalent of dairy products was calculated from production data by the Bureau of Business Research.

‡Includes ice cream, sherberts, ices, etc.

NOTE: 10-Year Average production of creamery butter, ice cream and American Cheese based on data from the Division of Agricultural Statistics, B.A.E.

APRIL SHIPMENTS OF LIVE STOCK CONVERTED TO A RAIL-CAR BASIS*

	Cattle		Calves		Hogs		Sheep		Total	
	1943	1942	1943	1942	1943	1942	1943	1942	1943	1942
Total Interstate Plus Fort Worth	10,628	9,595	552	787	1,598	1,083	551	515	13,329	11,980
Total Intrastate Omitting Fort Worth	1,115	541	169	161	47	32	19	11	1,350	745
TOTAL SHIPMENTS	11,743	10,136	721	948	1,645	1,115	570	526	14,679	12,725

TEXAS CAR-LOT* SHIPMENTS OF LIVE STOCK FOR YEAR 1943

	Cattle		Calves		Hogs		Sheep		Total	
	1943	1942	1943	1942	1943	1942	1943	1942	1943	1942
Total Interstate Plus Fort Worth	24,812	19,223	2,571	3,007	5,589	3,990	2,596	1,928	35,568	28,148
Total Intrastate Omitting Fort Worth	3,586	1,697	776	490	260	67	188	57	4,810	2,311
TOTAL SHIPMENTS	28,398	20,920	3,347	3,497	5,849	4,057	2,784	1,985	40,378	30,459

*Rail-car Basis: Cattle, 30 head per car; calves, 60; hogs, 80; and sheep, 250.

Fort Worth shipments are combined with interstate forwardings in order that the bulk of market disappearance for the month may be shown.

NOTE: These data are furnished the United States Bureau of Agricultural Economics by railway officials through more than 1,500 station agents, representing every live stock shipping point in the State. The data are compiled by the Bureau of Business Research.

PERCENTAGE CHANGES IN CONSUMPTION OF ELECTRIC POWER

	April, 1943 from April, 1942	April, 1943 from March, 1943
Commercial	+ 23.4	+ 4.3
Industrial	+ 51.6	+ 5.7
Residential	+ 17.1	+ 4.6
All Others	+164.7	− 16.5
TOTAL	+ 53.6	− .2

Prepared from reports of 11 electric power companies to the Bureau of Business Research.

TEXAS COMMERCIAL FAILURES

	April, 1943	April, 1942	March, 1943
Number	1	24	1
Liabilities*	$15	$175	$10
Assets*	9	123	8
Average Liabilities per failure*	15	7	10

*In thousands.

NOTE: From Dun and Bradstreet, Inc.

APRIL RETAIL SALES OF INDEPENDENT STORES IN TEXAS BY DISTRICTS

	Number of Firms Reporting	Percentage Changes in Dollar Sales April, 1943 from April 1942	April, 1943 from March, 1943	Year 1943 from Year 1942
TOTAL TEXAS	962	+39	+ 8	+33
TEXAS STORES GROUPED BY PRODUCING AREAS:				
District 1–N	71	+55	+ 5	+47
Amarillo	23	+68	+ 6	+65
Plainview	14	+45	+ 4	+37
All Others	34	+46	+ 5	+32
District 1–S	29	+93	+10	+46
Lubbock	14	+92	+ 9	+47
All Others	15	+96	+12	+40
District 2	84	+38	+ 8	+30
Abilene	17	+43	+10	+54
Wichita Falls	16	+45	+ 6	+24
All Others	51	+28	+ 7	+16
District 3	37	+18	+12	+14
District 4	215	+52	+10	+46
Corsicana	10	+38	+ 8	+38
Dallas	35	+53	+ 9	+45
Fort Worth	28	+49	+10	+48
Sherman	12	+18	+18	+15
Waco	21	+72	+17	+61
All Others	109	+50	+ 9	+42
District 5	96	+27	+12	+18
District 6	39	+36	+ 8	+33
El Paso	19	+35	+ 6	+32
All Others	20	+46	+24	+42
District 7	53	+23	+ 4	+22
San Angelo	12	+36	+11	+31
All Others	41	+10	− 5	+12
District 8	157	+25	+ 3	+28
Austin	15	+40	+ 7	+28
San Antonio	43	+28	+ 4	+34
All Others	88	+16	+ 1	+16
District 9	112	+34	+10	+24
Beaumont	11	+56	+15	+52
Galveston	10	+13	− 7	+ 4
Houston	44	+34	+13	+22
All Others	47	+27	+ 7	+19
District 10	27	+23	+ 2	+35
District 10–A	42	+41	+(1)	+27

(1)Change of less than .5%.

NOTE: Prepared from reports of independent retail stores to the Bureau of Business Research, coöperating with the U.S. Bureau of the Census.

PETROLEUM

DAILY AVERAGE PRODUCTION

(In Barrels)

	April, 1943	April, 1942	March, 1943
Coastal Texas*	340,650	218,690	353,250
East Central Texas	99,700	78,270	99,800
East Texas	319,800	209,970	323,400
North Texas	134,950	137,560	136,800
Panhandle	91,000	83,270	88,600
Southwest Texas	188,500	143,300	172,900
West Texas	214,400	177,350	218,100
State	1,389,000	1,048,410	1,392,850
United States	3,924,550	3,484,610	3,898,750

Gasoline sales as indicated by taxes collected by the State Comptroller were: March, 1943, 103,420,300 gallons; March, 1942, 121,240,000 gallons; February, 1943, 95,327,649 gallons.

*Includes Conroe.

NOTE: From American Petroleum Institute.

See accompanying map showing the oil producing districts of Texas.

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